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same conclusion reached last year, which is as follows: "The weather conditions in the interior of Georgia and Alabama were better than in Virginia, North Carolina, South Carolina, Mississippi, and Louisiana; and judging from this table [of results of the observations] it would be much safer for the eclipse expeditions to locate their stations in the northern portions of Georgia and Alabama, upon the southern end of the Appalachian Mountains, where the track crosses the elevated areas, than nearer the coast-line in either direction, northeastward toward the Atlantic Coast, or southwestward toward the Gulf Coast; on the Coast itself the weather is more unfavorable than in any other portion of the track." These observations will be repeated in 1899.

R. G. A.

#### ON THE ORIGIN OF THE PRINCIPAL LINE IN THE AURORA SPECTRUM.

It is possible that some recent observations may furnish an explanation of the origin of the principal bright line in the spectrum of the aurora.

When the new element, krypton, was discovered in our atmosphere by RAMSAY and TRAVERS, they announced that one of the principal lines in its spectrum has the wave-length 5566 tenth-meters. Professor RUNGE has made an accurate determination of the wave-length of this line, and finds its value to be

$$\lambda 5570.4.$$

The observations of the aurora line, made under the best conditions, gave the following results for its wave-length:—

ÅNGSTRÖM	. . .	5568
VOGEL	. . .	5572
VIJKANDER	. . .	5573
LEMSTRÖM	. . .	5570
HUGGINS	. . .	5572
COPELAND	. . .	5573
GILLENISKIÖLD	. . .	5569
CAMPBELL	. . .	5571.6
Mean	. . .	5571.1

It will be seen that the krypton and aurora lines occupy nearly the same position. Inasmuch as the aurora line was quite faint when some of the measures were made, it is possible

that its measured position could be in error by 0.7 of a unit, thus permitting exact coincidence with the krypton line.

It does not follow that the apparent coincidence indicates with any degree of certainty that the principal aurora line is due to krypton. We need only recall the early observations of the principal nebular line, and its apparent coincidence with a prominent nitrogen line, and later with a prominent magnesium line, to be on our guard against conclusions based upon apparent coincidences of single lines in two spectra. In the present case, only one of the several krypton lines seems to have a counterpart in the aurora spectrum.

Again, we should recall that LIVEING and DEWAR produced a strong line at  $\lambda$  5572 by passing a powerful current (spark) of electricity through liquid oxygen and its vapor. This points to the possible oxygen origin of the aurora line.

W. W. CAMPBELL.

#### CORRECTIONS TO WEISSE'S CATALOGUE OF BESSEL STARS.

W. B.<sub>2</sub>. 22<sup>h</sup> 259.

There appears to be an error of about 10'' in declination in the reduction of this star from the time of observation to the epoch of the catalogue. The declination should be increased 10''.

W. B.<sub>2</sub>. 22<sup>h</sup> 395.

The right ascension of this star appears to be 0<sup>s</sup>.6 too large.

W. B.<sub>2</sub>. 22<sup>h</sup> 688.

The declination of this star is in error by 1' 45''. Both the catalogue place and the zone observation should be decreased.

MT. HAMILTON, Dec. 20, 1898.

C. D. PERRINE.

#### COMET *j* 1898 (CHASE).

This comet was discovered November 21, 1898, at the Yale Observatory by Dr. FREDERICK L. CHASE upon photographic plates exposed upon the night of November 14, 1898, for the *Leonid* meteors. Its cometary nature was verified by Dr. CHASE upon the night of November 21, 1898, by making additional exposures.

The comet has also been found upon negatives taken at Harvard College Observatory, at Goodsell Observatory, and at the Lick Observatory.